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Divergent Trends in Citizenship Rates among Immigrants in Canada and the United States

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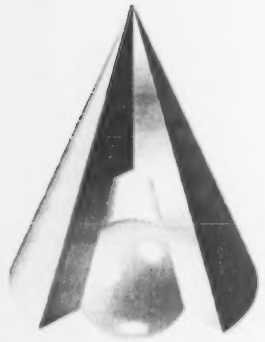

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..	not available for a specific reference period
...	not applicable
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0^s	value rounded to *0* (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

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Abstract

This paper addresses two issues. First: among immigrants, is there a labour market benefit associated with becoming a citizen of the host country, in this case Canada or the United States? Recent international research indicates that there is an economic return to acquiring citizenship. Second: a significant gap in the citizenship rate has opened up between Canada and the United States. In 1970, about two-thirds of immigrants in Canada or the United States were citizens. Citizenship rates then fell in the United States and rose in Canada; by 2006, the citizenship rate was 33 percentage points higher in Canada than in the United States. Do differences between the two countries in individual and source region characteristics of immigrants account for this widening citizenship rate gap? This study finds that, through the 1970s, when the gap widened most, changes in the characteristics of immigrants to Canada and the United States accounted for 63% to 68% of the increase. Through the 1980s, changes in immigrant characteristics accounted for about 50% of the increase. Over the 1990-to-2006 period, the citizenship rate changed little in the United States, and the continued rise in Canada was again related mostly to changes in immigrant composition.

Executive Summary

This paper begins by reviewing the recent literature on the labour market benefits of citizenship acquisition among immigrants to Canada and the United States. Cross-sectional data from 2006 suggest that, after one has accounted for differences in years since immigration, as well as for personal and job-related characteristics, immigrants who are citizens have higher employment rates and lower unemployment rates, are more likely to be in higher-status occupations, and have higher earnings than their counterparts who are not citizens. But does citizenship acquisition lead to better employment outcomes? This question is better addressed with longitudinal data. One U.S. study using such data concluded that becoming a citizen did contribute to higher wages. No such longitudinal data exist in Canada.

If acquiring citizenship is one means of improving labour market outcomes, then it is important to identify the determinants of citizenship. Among immigrants who meet eligibility requirements, citizenship acquisition is associated with personal and source country characteristics. The likelihood of becoming a citizen varies among immigrants as a result of their educational attainment, years since immigration, age at immigration, and language skills. Furthermore, source region characteristics matter. Immigrants from countries with lower gross domestic product *per capita* and from countries with restricted civil liberties are more likely to become citizens of Canada or the United States. Immigrants from a country in close geographical proximity (e.g., Mexico to the United States) are less likely to become citizens. Overall, the research suggests that personal characteristics generally affect the probability of citizenship acquisition more than source country characteristics.

In 1970, citizenship rates were similar in Canada and the United States, at around 68%. By 2006, the percentage had declined to 46% in the United States and risen to 79% in Canada, resulting in a 33-percentage-point gap between the two countries. Some of the decline in the United States was likely associated with a rising number of unauthorized immigrants, who are not eligible for citizenship. However, even after one has accounted for this, it is found that the citizenship rate still declined significantly in the United States, particularly between 1970 and 1990.

This paper examines the extent to which the widening gap in citizenship rates in Canada and the United States is associated with changes in the individual characteristics and source regions of immigrants to the two countries. The analysis uses microdata from the Census of Canada, the U.S. Census, and the American Community Survey.

Through the 1970s, when the gap widened most, this study finds that changes in the characteristics of immigrants to Canada and the United States accounted for roughly 65% of the increase. Through the 1980s, changes in immigrant characteristics accounted for about 50% of the increase. Over the 1990-to-2006 period, the citizenship rate changed little in the United States, and the continued rise in Canada was related mostly to changes in immigrant composition. Finally, over the entire period, from the early 1970s to 2006, changes in the characteristics of immigrants to the two countries accounted for 48% to 62% of the increase in the gap in citizenship rates among immigrants. For the most part, the citizenship rates in the two countries moved in directions one would expect, given the changes in the personal characteristics and the source countries of the immigrants residing in each country.

1 Introduction

There are many reasons why immigrants seek citizenship in Canada and the United States. Citizenship (or naturalization) conveys political rights, such as the right to vote and the right to hold some government offices. Holding a Canadian or U.S. passport may enhance travel opportunities and convey other advantages. Becoming a citizen may also be socially and psychologically important for immigrants. But are there economic benefits to citizenship? This paper reviews currently available Canadian and U.S. literature on the economic benefits of citizenship and compares the labour market outcomes of immigrants who are citizens and immigrants who are permanent residents (non-citizens) using Canadian and U.S. data.

If citizenship does improve labour market outcomes, as some recent research suggests, then it may be thought of as a potential tool to improve the economic integration of immigrants. In this context, the paper also reviews recent literature on the determinants of citizenship acquisition, and goes on to ask why a gap in the citizenship rate among immigrants developed between Canada and the United States in the period from 1970 to 2006. The role that changes in immigrant characteristics played in the development of this gap is examined. In 1970/1971, about two-thirds of foreign-born residents in both Canada and the United States became citizens of their new country. Thirty-five years later, in 2006, the percentage had risen to 79% in Canada, and fallen to 46% in the United States. Some of the decline in the U.S. rate is due to a rising share of unauthorized immigrants, who are not eligible for citizenship. However, even after accounting for this fact, there was still a divergence in the citizenship rates between the two countries, particularly between 1970 and the mid-1990s. This paper examines the impact of demographic changes among immigrants to Canada and the United Sates on the evolution of this citizenship rate gap and discusses the potential impact of other factors.

2 Becoming a citizen of Canada or of the United States

By international standards, becoming a citizen is a relatively straightforward process in both Canada and the United States. In the United States, to be eligible to become a naturalized citizen one must be a legal immigrant, have five years of continuous residency in the country, and be at least 18 years of age. Furthermore, individuals must be of good moral character, pass an English language proficiency test, demonstrate knowledge of U.S. government and history, support the Constitution, and swear allegiance to the United States. There are some exceptions to these requirements. For example, immigrants who are spouses of U.S. citizens need only reside in the United States for three years. Dual citizenship is allowed in the United States. New citizens are not required to select the citizenship of one country over another, and hence whether one maintains dual citizenship has more to do with the citizenship laws of the home country than with U.S. laws.

The requirements for citizenship are quite similar in Canada. The residency requirement is likely the largest difference, as the legal immigrant must have resided in Canada for three of the previous four years in order to be eligible, as compared with five years of continuous residency in the United States. Other Canadian requirements are very similar to those in the United States: immigrants must be at least 18 years of age, display an adequate ability in English or French, have had no criminal conviction in the previous three years, understand the rights and responsibilities of citizenship, and have a good knowledge of Canada's history, values, and institutions. Prospective citizens are required to take a citizenship test in both Canada and the United States. There is not an explicit language test in Canada as in the United States, but there is an assumption that taking the citizenship test itself demonstrates adequate language skills in either English or French. Canada recognizes and allows dual citizenship.

The costs associated with citizenship are very similar in the two countries. The direct costs, such as application fees, are small in both countries. For immigrants from countries that do not recognize dual citizenship, such as China, India, Pakistan, Taiwan, Ukraine, and Vietnam, the major cost of citizenship in Canada or the United States may be the loss of home country citizenship. This implies potential costs such as limiting access to the home country's labour market. Immigrants from home countries that recognize dual citizenship, such as Australia, United Kingdom, France, Lebanon, Poland, Portugal, and many South and Central American countries, do not bear such costs in either Canada or the United States.

In the United States and Canada, citizens have rights that non-citizens do not have, including the right to vote, to apply for a passport, to become an elected official, to enter and leave the country freely, and to apply for federal competitive service jobs (United States) or to be given preference for federal jobs (Canada). U.S. citizenship also confers the right to apply for jobs in the defense industry. In Canada, citizens and permanent residents (that is, legal immigrants who are not citizens) have equal access to health and social services. In contrast, in the United States, social assistance benefits have been restricted to citizens since the mid-1990s, and immigrants who are citizens receive priority when applying to bring family members into the country. Furthermore, there is no cap on the number of immediate family members of citizens entering the country, but there is a cap on the family members of non-citizens. In this respect, the direct advantages associated with the acquisition of citizenship may appear greater in the United States than in Canada. Nevertheless, the citizenship rate is lower in the United States.

3 Literature review on the labour market benefits of citizenship

Citizenship may be expected to improve the labour market outcomes of immigrants for numerous reasons. The most often cited relates to the restricted access by non-citizens to particular types of jobs. In virtually all western countries, some jobs are open only to citizens: police work in the Netherlands, top banking positions in Norway, and top civil service jobs in most countries (Bloemraad 2008). In the United States, employment in many federal agencies, the defense industry, and think tanks is restricted to U.S. citizens. Furthermore, in some U.S. states, police officers must be U.S. citizens. In Canada, jobs in the federal government are, by and large, open only to citizens.[1]

However, beyond the formal access to certain types of jobs, there may be informal advantages in the labour market that naturalized immigrants (i.e., immigrants who have acquired citizenship) hold over immigrants who are not citizens. Citizenship acquisition may signal an immigrant's commitment to the host country and reduced likelihood of returning to the country of origin, thereby increasing employers' willingness to hire, train, and promote naturalized immigrants. Holding a host-country passport in Canada or the United States may be important in some jobs, particularly professional white-collar jobs, making international travel easier. Such considerations are formalized to some extent in the United States, as employers may legally use U.S. citizenship as a basis for hiring decisions when citizen and non-citizen applicants are equally qualified for a job (Bratsberg *et al.* 2002). The citizenship decision may also be correlated with other actions on the immigrant's part that positively affect labour market outcomes, such as acquiring information on the host country's history, culture, social values, and customs. Naturalized immigrants may participate in such activities more than other immigrants.

Some of these potential advantages may relate to some immigrants but not others. For example, the facilitation of international travel may not be a relevant consideration for immigrants from developed western nations, since they face visa requirements abroad similar to those of Canadian or American citizens. More broadly, it is difficult to develop convincing arguments regarding who will or will not benefit economically from citizenship. For example, highly educated immigrants may benefit from improved access to top-level jobs, but less skilled immigrants may benefit from the signals that citizenship sends to employers regarding commitment and stability. Hence, the extent to which citizenship improves labour market outcomes and, if it does, the types of immigrants who benefit most are largely empirical questions.

3.1 U.S. and Canadian studies of the correlation between citizenship and labour market outcomes

A few studies have examined the correlation between citizenship and labour market outcomes among immigrants to the United States and Canada. Chiswick (1978) reported some of the earliest findings. Using 1970 U.S. Census data for adult white males, Chiswick concluded that citizenship was not correlated with higher earnings. With controls for education, potential years of experience, and location of residence, he found that naturalized immigrants earned about 14% more than immigrant non-citizens. However, naturalized immigrants had spent much more time in the United States, and this was positively correlated with their earnings. After one had accounted for length of residence, it was found that naturalized citizens still earned about 7% more than non-citizens, but this difference was not statistically significant. Furthermore, when years since migration interacted with citizenship status, allowing the effect of years since

1. In some cases non-citizens can be hired, if it can be demonstrated that no citizen is available and qualified for the job.

migration on wages to differ between citizens and non-citizens, the difference in wages between the two groups fell to virtually zero.

Interestingly, as part of a larger research project, Bratsberg *et al.* (2002) replicated Chiswick's intermediate model specification (controlling for education, experience, years since migration, and other variables) using 1990 U.S. Census data. Among adult males, they found essentially the same coefficients as Chiswick, with naturalized immigrants earning about 7% more than non-citizens. This difference was statistically significant in their analysis, likely reflecting the larger size of their sample.[2] Furthermore, comparing cross-sectional estimates from the 1990 U.S. Census, the Current Population Survey (CPS) for 1994–1998, and the National Longitudinal Survey of Youth (NLSY), Bratsberg *et al.* (2002) found a 5%-to-6% wage gap between young men (under age 30) who were naturalized immigrants and young men (under age 30) who were non-citizens.

Bratsberg *et al.* also found that the wage premium associated with citizenship was greater for immigrants from poorer countries. Adding gross domestic product (GDP) *per capita* of the source country into their analysis, they concluded that a $1000 increase in GDP *per capita* resulted in a 0.7-percentage-point decline in the citizenship wage premium. For example, they estimated the citizenship wage premium to be 2.9% among immigrants from Italy, compared with 7.2% among immigrants from El Salvador.

In Canada, DeVoretz and Pivnenko (2005) began by noting that the relationship between citizenship and earnings may be different for immigrants from developed nations (member countries of the Organisation for Economic Co-operation and Development [OECD]) and immigrants from developing (non-OECD) nations and for men and women. Using a specification similar to that of Chiswick (1978) and of Bratsberg *et al.* (2002), they produced separate estimates for the four groups using data from the 1991, 1996, and 2001 Census of Canada. They concluded that earnings are positively correlated with citizenship and that the correlation is much stronger for immigrants from developing nations than for immigrants from developed nations. More specifically, the earnings differential between immigrants who were citizens and immigrants who were not citizens was 12.6% and 14.4%, respectively, for women and men from non-OECD countries, and 5.8% and 4.1%, respectively, for women and men from OECD countries.

3.2 U.S. and Canadian studies accounting for selection bias and endogeneity

While these studies document a correlation between citizenship and earnings, the issues of self-selection and endogeneity must be addressed before one can be reasonably certain that there is a causal relationship.

Self-selection may account for some or all of the positive correlation between citizenship and labour market outcomes. Immigrants who choose (or self-select) to become citizens may differ from immigrants who choose not to become citizens in ways that are not taken into account in empirical analyses but which result in superior labour market outcomes for the former. Most importantly, naturalized immigrants may be more motivated to succeed in the host country. This characteristic, which is typically unmeasured and unobserved, may be positively correlated with both citizenship and earnings.

Endogeneity arises when causality runs in both directions. In most analyses, authors argue, or assume, that citizenship drives labour market outcomes. However, it may also be that immigrants who are doing well economically choose to become citizens. In short, economic

2. Bratsberg *et al.* (2002) had a sample of around 200,000 foreign-born individuals, while Chiswick (1978) used a sample of about 1,900.

success may drive citizenship, and the converse may also be true. To the extent that endogeneity occurs, the observed correlations between citizenship and labour market outcomes would over-estimate the causal effect of naturalization on outcomes, even in the absence of other issues.

A few studies have addressed the issues of self-selection and endogeneity by using longitudinal data; others have used techniques such as the "Heckman correction" to address self-selection.

In Canada, DeVoretz and Pivnenko (2008) addressed the issue of self-selection by using the Heckman two-stage selection correction (the "Heckman correction") and concluded that there is evidence of selection bias. That is, part of the positive correlation between citizenship and earnings is due to the fact that immigrants with earnings-related characteristics, such as motivation, are more likely to self-select into citizenship. However, DeVoretz and Pivnenko do not produce estimates of the wage difference after accounting for selection bias.

In the United States, Bratsberg *et al.* (2002) used longitudinal data from the NLSY over the 1979-to-1991 period to overcome potential issues related to selection bias and endogeneity. An important aspect of the NLSY is that it includes a question regarding the legal status of immigrant respondents. To the extent that the question is correctly answered, unauthorized immigrants can be identified and taken into account. In contrast, analyses based on U.S. Census and CPS data cannot account for the legal status of immigrants. Unauthorized immigrants cannot become citizens and are included in the non-citizen group in analyses using these data sources. To the extent that unauthorized immigrants generally earn less than immigrants with legal standing, the earnings of non-citizens will be biased downwards. On the basis of their analysis of NLSY data, Bratsberg *et al.* (2002) found that, even after controlling for "individual fixed effects," such as personal initiative and motivation, the wage premium associated with citizenship is around 5.6%. Hence, they conclude that unobserved differences between immigrants who naturalize and those who do not (i.e., selection effects) are not primarily responsible for the correlations reported earlier. They also conclude that there is no 'earnings surge' at the time citizenship is acquired, but rather that wage growth and returns to experience increase in subsequent years. Regarding the type of jobs held, Bratsberg *et al.* found that there is a shift towards white-collar jobs and public-sector employment after naturalization.

No other Canadian or U.S. studies focusing on the economic gains associated with citizenship were identified. There have been numerous studies from other countries, many based on longitudinal data. Using longitudinal data from Norway and a "random effects" model, Hayfron (2008) concluded that naturalization has an instantaneous positive effect on wages. Similarly, Steinhardt (2008) found a citizenship wage premium using cross-sectional German data, while his longitudinal panel data showed both an immediate positive effect as well as accelerated wage growth. In Sweden, Scott (2008) found a positive correlation between wages and naturalization in cross-sectional data, while his analysis of longitudinal data showed either no effect or a positive wage effect that was evident even before naturalization took place; this suggests that higher wages among those who naturalize might be due to selection effects.

Overall, the weight of the evidence suggests that there may be a wage premium in the order of 5% to 15% associated with citizenship, depending upon the immigrant group. This premium appears to be larger for immigrants from some less developed nations.

3.3 More recent results on labour market outcomes

The research to date, reviewed above, has focused on wage differences between citizens and non-citizens. This section reports new results on a range of labour market outcomes, including employment rates, unemployment rates, and occupational distributions; as well, it updates the

results on wage differences between immigrants who are citizens and immigrants who are not citizens.

One can examine the economic affect of citizenship acquisition on a number of levels. The first level is to ask whether there is a statistical correlation between citizenship and labour market outcomes, such as the incidence of employment and, if employed, the type of job held by the individual and the wages received. Cross-sectional census data for a given year are typically used to determine whether these outcomes differ significantly between immigrants who are citizens and immigrants who are not citizens. This can be done on an unadjusted basis, where one simply compares outcomes for the two groups, or on an adjusted basis, where one takes into account differences between citizens and non-citizens that will affect labour market outcomes, such as education, age, or years since immigration. Some analyses also control for additional work-related variables, such as language, geographical location, full-time/part-time job status, occupation, and industry. This is the typical approach used in most research in this area, including what follows.

As discussed above, the presence of large numbers of unauthorized immigrants in the United States can significantly affect the results of such analyses. In the U.S. data, immigrants are identified by country of birth, not by legal immigrant status. It is estimated that, in 2008, approximately 30% of all foreign-born individuals living in the United States were unauthorized (Hoefer *et al.* 2011; Passel and Cohn 2009). Unauthorized immigrants consist of both visa overstayers (between 25% and 40% of the unauthorized) and "entries without inspection." The numbers of unauthorized immigrants have been rising in the United States, particularly since 1990. Indeed, it is estimated that the number of unauthorized immigrants in the United States increased from around 3.5 million to about 12 million between 1990 and 2008. Mexicans dominate the unauthorized-immigrant population, accounting for about 60% of the total; individuals from Central and South America account for almost 80% of the total (Hoefer *et al.* 2011; Passel and Cohn 2009). Since there is no way of identifying unauthorized immigrants in the data, focusing on the labour market outcomes of immigrants from regions other than the Caribbean, Central America, and South America is one way of largely excluding their effect from the empirical results. This latter approach is used in this paper.

The labour market outcomes of immigrants who are citizens and of immigrants who are not citizens are compared by means of the 2006 Census of Canada data for Canada and pooled data from the 2005, 2006, and 2007 American Community Survey (ACS) for the United States. Outcomes include employment rates, unemployment rates, shares in higher-status occupations[3], shares in public-administration jobs, and the log of weekly earnings[4].

In Canada, unadjusted data indicate that immigrants who are citizens have higher employment rates[5], lower unemployment rates, a greater likelihood of working in a high-status occupation, and higher weekly earnings than immigrants who are not citizens (Table 1).[6] However, much of this difference may be related to the fact that immigrants who are citizens (i.e., naturalized immigrants) tend to have been in the country longer and may be older and more highly educated than immigrants who are not citizens.

3. For Canada, higher-status occupations include management, finance, administration, natural and applied science, and other professional occupations. In the United States, these include management, business, finance, and administrative occupations.
4. The log of weekly earnings provides a measure of the percentage difference between the earnings of citizens, and those of non-citizens. For example, in Table 1 for Canada, the log of weekly earnings for male immigrants who were not citizens is 6.60; for male immigrants who were citizens, the log of weekly earnings is 6.70. Hence there is a difference of 10 logs points, or roughly 10%, between the earnings of the two groups.
5. Except among immigrants from developed countries.
6. The absolute difference and the statistical significance of the difference observed between citizens and non-citizens in Table 1 are shown in the "Observed" line of Table 2.

Table 1
Labour market outcomes by citizenship status among immigrants, Canada

	All	Source regions			
		Developed countries	Caribbean, Central America, and South America	Asia	Africa
			percent		
Men					
Employment rate					
No citizenship	81.0	83.2	81.0	77.5	77.7
With citizenship	82.7	81.5	84.3	83.1	84.4
Unemployment rate					
No citizenship	5.5	4.2	7.5	6.4	10.7
With citizenship	4.4	3.5	5.2	4.7	6.1
Share in high-status occupation					
No citizenship	38.1	42.1	26.8	34.6	46.6
With citizenship	48.7	48.8	40.3	49.3	62.5
Share in public administration					
No citizenship	1.4	2.0	0.9	0.7	1.5
With citizenship	2.3	2.8	2.4	1.6	2.8
			log points		
Log weekly earnings					
No citizenship	6.60	6.77	6.44	6.36	6.55
With citizenship	6.70	6.84	6.63	6.59	6.74
			percent		
Women					
Employment rate					
No citizenship	63.7	68.2	65.0	56.1	58.3
With citizenship	68.6	68.1	72.8	67.4	70.5
Unemployment rate					
No citizenship	7.0	4.6	10.4	10.0	13.1
With citizenship	5.8	4.4	6.7	6.5	7.2
Share in high-status occupation					
No citizenship	54.2	62.6	48.5	39.7	58.4
With citizenship	63.1	67.4	63.3	57.8	72.9
Share in public administration					
No citizenship	1.7	2.2	1.3	0.8	1.5
With citizenship	2.4	2.8	3.0	1.7	3.4
			log points		
Log weekly earnings					
No citizenship	6.19	6.28	6.10	6.07	6.10
With citizenship	6.37	6.42	6.35	6.31	6.40

Notes: High-status occupations include management, business, finance, administration, natural and applied sciences, and other professional occupations. Developed countries include Canada, the United States, Europe, Australia, and New Zealand.
Source: 2006 Census of Canada.

Table 2
Differences in labour market outcomes associated with citizenship among immigrants, Canada

	All	Source regions			
		Developed countries	Caribbean, Central America, and South America	Asia	Africa
			percentage points		
Men					
Employment rate					
Observed	1.8 ***	-1.7 ***	3.3 ***	5.6 ***	6.7 ***
Adjusted	2.5 ***	0.8 **	3.6 ***	4.5 ***	5.6 ***
Unemployment rate					
Observed	-1.1 ***	-0.7 ***	-2.3 ***	-1.7 ***	-4.6 ***
Adjusted	-1.2 ***	-0.8 ***	-1.9 ***	-1.4 ***	-3.1 ***
Share in high-status occupation					
Observed	10.6 ***	6.7 ***	13.5 ***	14.6 ***	15.8 ***
Adjusted	4.5 ***	3.8 ***	4.6 ***	5.2 ***	6.8 ***
Share in public administration					
Observed	0.8 ***	0.9 ***	1.5 ***	0.9 ***	1.3 **
Adjusted	0.6 ***	0.8 ***	0.7 **	0.2	0.6
			log points		
Log weekly earnings					
Observed	10.4 ***	6.8 ***	19.2 ***	23.7 ***	18.7 ***
Adjusted	6.6 ***	5.2 ***	10.1 ***	9.5 ***	3.1
Adjusted for work attributes	4.8 ***	3.9 ***	8.5 ***	6.7 ***	2.3
			percentage points		
Women					
Employment rate					
Observed	5.0 ***	-0.1	7.8 ***	11.3 ***	12.2 ***
Adjusted	3.7 ***	1.2 ***	6.0 ***	6.4 ***	6.7 ***
Unemployment rate					
Observed	-1.3 ***	-0.2	-3.7 ***	-3.5 ***	-5.9 ***
Adjusted	-1.2	-0.1	-2.8 ***	-2.3 ***	-3.6 ***
Share in high-status occupation					
Observed	8.9 ***	4.8 ***	14.8 ***	18.1 ***	14.5 ***
Adjusted	5.06 ***	3.7 ***	6.1 ***	7.13 ***	6.6 ***
Share in public administration					
Observed	0.8 ***	0.6 ***	1.7 ***	1.0 ***	1.9 **
Adjusted	0.5 ***	0.6 ***	0.8 *	0.2	1.2
			log points		
Log weekly earnings					
Observed	17.1 ***	14.1 ***	24.9 ***	24.5 ***	29.3
Adjusted	8.8 ***	8.1 ***	11.6 ***	8.8 ***	12.5 ***
Adjusted for work attributes	5.2 ***	5.1 ***	7.8 ***	4.5 ***	8.5 ***

* significant at $p < 0.05$
** significant at $p < 0.01$
*** significant at $p < 0.001$

Notes: High-status occupations include management, business, finance, administration, natural and applied sciences, and other professional occupations. Developed countries include Canada, the United States, Europe, Australia, and New Zealand. "Adjusted" are model estimates controlling for age at immigration, years since immigration, education, source regions. For earnings, age rather than age at immigration is used. "Adjusted for work attributes" are estimates also controlling for marital status, speaking the official languages, geographic location, full-time status, occupation, and industry.

Source: 2006 Census of Canada.

The adjusted data for Canada provide similar, but somewhat attenuated, differences between the two groups (Table 2).[7] For men, with adjustments for differences in personal characteristics, employment rates were 2.5-percentage-points higher, unemployment rates 1.2-percentage-points lower, and the share in high-status occupations 4.5-percentage-points higher among naturalized immigrants than among immigrants who are not citizens. With adjustments for both personal and job characteristics, weekly earnings were 4.8% higher among naturalized immigrants. With controls for these characteristics among women, employment rates were 3.7-percentage-points higher, the share in high-status occupations was 5.1-percentage-points higher, and weekly earnings were 5.2 percentage-points-higher among naturalized immigrants than among immigrants who were not citizens.

In the United States, labour market outcomes are also generally superior for naturalized immigrants than for immigrants who are non-citizens (with the exception of employment rates, which are very similar for the two groups). The unadjusted data are shown for all immigrants, as well as for immigrants from all countries except Mexico. The results are also shown for source regions from which few unauthorized immigrants originate, such as developed countries, Asia, and Africa (Table 3). The differences noted above are again evident. In the unadjusted data, immigrants with citizenship have higher employment rates, lower unemployment rates, a greater likelihood of being employed in high-status occupations, and higher earnings than non-citizens. This remains the case when immigrants from Mexico are excluded from the analysis and when comparisons are limited to immigrants from regions from which few unauthorized immigrants originate.

7. The adjusted data control for differences in age at immigration, years since immigration, education, and source region between naturalized and non-citizen immigrants. For earnings, the controls include these variables, except that age rather than age at immigration is used, and the adjusted estimates also control for various work attributes, including whether the immigrant speaks an official language (English or French), geographic location, full-time/part-time job status, occupation, industry, and marital status.

Table 3
Labour market outcomes by citizenship among immigrants, United States

	All	All excluding Mexico	Source regions			
			Developed countries	Caribbean, Central America, and South America	Asia	Africa
			percent			
Men						
Employment rate						
No citizenship	84.8	83.8	85.1	85.2	83.2	83.9
With citizenship	83.4	83.3	81.9	83.9	83.2	86.6
Unemployment rate						
No citizenship	4.5	4.7	3.5	4.6	4.2	6.2
With citizenship	4.0	4.0	3.7	4.3	3.9	4.5
Share in high-status occupation						
No citizenship	15.0	25.4	40.3	6.2	36.5	29.3
With citizenship	30.0	34.8	38.1	17.7	39.0	41.1
Share in public administration						
No citizenship	0.8	1.2	1.3	0.5	1.3	2.2
With citizenship	3.6	3.9	3.5	3.3	3.7	5.2
			log points			
Log weekly earnings						
No citizenship	6.38	6.59	6.99	6.21	6.77	6.53
With citizenship	6.77	6.84	7.00	6.58	6.88	6.81
			percent			
Women						
Employment rate						
No citizenship	55.9	62.4	64.0	53.0	58.6	69.0
With citizenship	67.7	68.9	66.7	67.7	67.7	73.0
Unemployment rate						
No citizenship	7.9	6.5	4.7	9.4	5.6	7.0
With citizenship	4.6	4.4	3.9	5.5	3.9	4.9
Share in high-status occupation						
No citizenship	18.1	25.7	38.4	8.4	34.0	29.6
With citizenship	32.3	35.0	38.9	24.0	37.8	40.1
Share in public administration						
No citizenship	1.2	1.6	2.1	0.8	1.6	2.9
With citizenship	3.5	3.6	3.5	3.6	3.4	3.2
			log points			
Log weekly earnings						
No citizenship	6.05	6.22	6.39	5.85	6.38	6.29
With citizenship	6.42	6.48	6.52	6.26	6.54	6.50

Notes: High-status occupations include management, business, finance, administration, natural and applied sciences, and other professional occupations. Developed countries include Canada, the United States, Europe, Australia, and New Zealand.
Source: American Community Survey, 2005 to 2007.

When controls for differences between citizens and non-citizens with respect to age at immigration, years since immigration, education, and source region are applied, the adjusted U.S. data generally yield similar results. Among all male immigrants, employment rates are marginally lower (-0.8%) among citizens than non-citizens, but citizens fare better on all other indicators (Table 4). In particular, after adjusting for personal and job-related characteristics, it was found that male naturalized immigrants earned about 9.4% (0.094 log points) more and that female naturalized immigrants earned 8.7% more than their non-citizen counterparts. This comparison again includes some unauthorized immigrants, particularly from Mexico; they are

classified as non-citizens and tend to have lower earnings (Bratsberg *et al.* 2002). However, naturalized immigrants from all major source regions earned more than their non-citizen counterparts. Among men, there was a difference of 5.1% among those from developed countries[8], a difference of 2.8% among those from Asia, a difference of 5.2% among those from Africa, and a difference of 14.1% among those from the Caribbean, Central America, and South America.[9] Among women, the differences were the following: 8.0% among those from developed countries; 4.5% among those from Asia; 7.5% among those from Africa; and 11.6% among those from the Caribbean, Central America, and South America.

To summarize, the cross-sectional results for Canada and the United States suggest that immigrants who are citizens generally have more favourable labour market outcomes than those who are not naturalized. Issues of selection bias and endogeneity are not addressed in the results above. However, some U.S. literature suggests that these differences remain even when these issues are taken into account and may thus point to a causal relationship. Still, given the lack of sufficient Canadian data, one cannot be certain that this conclusion holds in Canada.

8. Includes the United States, Canada, Europe, Australia, and New Zealand.
9. This higher value in the last case may be partially due to the inclusion of some unauthorized immigrants with lower earnings in the non-citizen category.

Table 4
Differences in labour market outcomes associated with citizenship among immigrants, United States

	All	Source regions			
		Developed countries	Caribbean, Central America, and South America	Asia	Africa
			percentage points		
Men					
Employment rate					
Observed	-1.4 ***	-3.2 ***	-1.4 ***	0.0	2.8 ***
Adjusted	-0.8 ***	1.5 ***	2.2 ***	3.0 ***	4.1 ***
Unemployment rate					
Observed	-0.5 ***	0.3	-0.4 **	-0.3	-1.7 ***
Adjusted	-1.2 ***	-0.1	-1.0 ***	-0.8 ***	-1.5 **
Share in high-status occupation					
Observed	15.0 ***	-2.2 ***	11.5 ***	2.5 ***	11.9 ***
Adjusted	2.2 ***	0.3	2.6 ***	2.4 ***	2.2 *
Share in public administration					
Observed	2.8 ***	2.2 ***	2.8 ***	2.4 ***	3.0 **
Adjusted	1.5 ***	1.6 ***	1.5 ***	1.2 ***	1.6 ***
			log points		
Log weekly earnings					
Observed	39.1 ***	1.6	37.5 ***	11.3 ***	27.2 ***
Adjusted	11.7 ***	5.8 ***	16.7 ***	5.0 ***	7.4 ***
Adjusted for work attributes	9.4 ***	5.1 ***	14.1 ***	2.8 ***	5.2 **
			percentage points		
Women					
Employment rate					
Observed	11.8 ***	2.6 ***	14.7 ***	9.1 ***	4.0 ***
Adjusted	6.8 ***	4.1 ***	7.5 ***	7.2 ***	3.0 **
Unemployment rate					
Observed	-3.3 ***	-0.8 ***	-3.9 ***	-1.6 ***	-2.1 **
Adjusted	-1.0 ***	-1.0 ***	-2.1 ***	-1.2 ***	-1.52 *
Share in high-status occupation					
Observed	14.2 ***	0.5	15.6 ***	3.8 ***	10.4 ***
Adjusted	3.5 ***	1.8 ***	4.6 ***	2.11 ***	2.3 *
Share in public administration					
Observed	2.3 ***	1.5 ***	2.7 ***	1.8 ***	0.3
Adjusted	1.0 ***	1.3 ***	1.2 ***	0.6 ***	-1.0 *
			log points		
Log weekly earnings					
Observed	37.3 ***	12.6 ***	41.2 ***	15.8 ***	21.4 ***
Adjusted	11.8 ***	10.8 ***	15.4 ***	6.2 ***	7.8 ***
Adjusted for work attributes	8.7 ***	8.0 ***	11.6 ***	4.5 ***	7.5 ***

* significant at $p < 0.05$
** significant at $p < 0.01$
*** significant at $p < 0.001$

Notes: High-status occupations include management, business, finance, administration, natural and applied sciences, and other professional occupations. Developed countries include Canada, the United States, Europe, Australia, and New Zealand. "Adjusted" are model estimates controlling for age at immigration, years since immigration, education, source regions. For earnings, age rather than age at immigration is used. "Adjusted for work attributes" are estimates also controlling for marital status, speaking the official languages, geographic location, full-time status, occupation, and industry.

Source: American Community Survey, 2005 to 2007.

4 The determinants of citizenship

There is not a large body of literature on the determinants of citizenship in Canada or the United States. However, researchers have noted for some time that certain characteristics are associated with citizenship among immigrants. Variables are often grouped into theoretical or thematic categories, such as commitment variables (e.g., home ownership and language spoken), socio-demographic characteristics (e.g., educational attainment, income, and presence of children), arrival characteristics (e.g., age at arrival, years in the country), visa category, characteristics of country of origin (e.g., political rights and freedom, GDP *per capita*, and recognition of dual citizenship), and current neighbourhood characteristics. No study has been able to incorporate all such variables as a result of measurement and data availability issues. Most Canadian and U.S. studies rely on census data, and hence focus on the effects of individual characteristics. Some have added source country characteristics (usually GDP *per capita*) and, in more recent studies, political rights and freedoms. In general, individual characteristics are a much stronger determinant of citizenship than country-of-origin characteristics, at least in the United States (Chiswick and Miller 2009).

The number of years since immigration has long been seen as one of the most important determinants of citizenship (Bernard 1936; Evans 1988; Tran *et al.* 2005); it is positively correlated with naturalization, at least up to 35 to 40 years in the country. When controls for other characteristics are applied, the likelihood of being a citizen rises from about 10% after 5 years to about 55% after 20 years, in the United States (Chiswick and Miller 2009). Higher levels of education are associated with higher citizenship rates (Bueker 2005; Jasso and Rosenzweig 1990; Portes and Rumbaut 1996; Yang 1994). Chiswick and Miller (2009) found that the probability of being a citizen is about 15-percentage-points higher for an immigrant with 20 years of schooling than for an immigrant with 10 years, each additional year of schooling increasing the probability by about 1.5 percentage points. DeVoretz and Pivnenko (2008) found that educational attainment had no effect in Canada. Males are often found to have a higher probability of being citizens (Yang 1994; DeVoretz and Pivnenko 2008), as are people with higher incomes and those more proficient in the host country's language (Bueker 2005; Jasso and Rosenzweig 1990; Portes and Mozo 1985; Portes and Rumbaut 1996; DeVoretz and Pivnenko 2008). Evidence on the relationship between age at immigration and citizenship is mixed, as Chiswick and Miller (2009) report a positive correlation, while Jasso and Rosenzweig (1986) report a negative correlation.

Even after accounting for these personal characteristics (and other less important variables, such as family status and educational attainment of the spouse), differences in the citizenship rate exist among immigrants from different source regions. The characteristics of source countries matter, although not as much as the personal characteristics of immigrants themselves.[10] Immigrants from developing countries are more likely to become citizens in richer nations than immigrants from developed economies (Chiswick and Miller 2009; Tran *et al.* 2005). Coming from a country with restricted civil liberties increases the likelihood of citizenship in a country such as Canada or the United States. For example, the incidence of citizenship, after one has adjusted for other personal and source region characteristics, is about 14-percentage-points higher among immigrants from countries with the least civil liberties (e.g., Afghanistan, North Korea) than among immigrants from countries with the most civil liberties (e.g., Switzerland, Australia) (Chiswick and Miller 2009). Furthermore, if the source country is in close geographical proximity, the likelihood of citizenship is reduced. This factor is particularly important in the United States, given the close proximity of Mexico and the fact that a large and increasing share of immigrants are from that country.

10. Chiswick and Miller (2009) found that variables describing individual characteristics increased the explanatory power of the model much more than those describing source region characteristics. For example, among males, omitting individual characteristics from the model reduced the *R-squared* from 0.250 to 0.080, while dropping the country-of-origin variables reduced it from 0.250 to 0.211. The results were similar for females.

Canadian data demonstrate significant variation in citizenship take-up rates by immigrant class; refugees are the most likely to become citizens, followed by the skilled economic class and then the family class. For example, six to ten years after entering Canada in the early 1990s, 85% of refugees were citizens, compared with 70% of the skilled economic class and 60% of the family class. However, much of this difference may be related to source region, as refugees are more likely to come from less affluent countries with poor human rights records (Tran *et al.* 2005).

Regarding dual citizenship, the issue is not so much whether the receiving country recognizes dual citizenship (as both Canada and the United States do), but rather whether the country of origin does. Empirical studies show that recognition of dual citizenship by the source country is associated with an increase of 2 percentage points to 3 percentage points in the likelihood of immigrants becoming U.S. citizens (Jones-Correa 2001; Mazzolari 2009; Chiswick and Miller 2009).

5 The evolution of a citizenship rate gap between Canada and the United States

5.1 Changes in citizenship rates in Canada and the United States

Between 1970 and 2006, citizenship rates followed divergent trends in Canada and the United States, raising questions about the underlying factors behind these trends. In 1970, about two-thirds of foreign-born residents in both countries were citizens. By 2006, this percentage had declined to 46% in the United States and risen to 79% in Canada. The decline in citizenship rates in the United States occurred largely between 1970 and 1990, while the increase in Canada occurred mainly during the 1970s and the 1990s (Table 5). The characteristics of immigrants changed significantly in both countries over these periods in ways one would expect to influence citizenship rates. This point is further discussed below.

Table 5
Citizenship rates among immigrants aged 25 or over, United States and Canada

	United States	United States excluding Caribbean, Central American, and South American immigrants	Canada
		percent	
1970/1971	69.5	75.9	66.4
1980/1981	56.7	65.6	73.7
1990/1991	46.5	56.3	73.9
2000/2001	48.1	57.8	78.1
2006	46.4	58.7	78.9

Sources: Census of Canada, 1971 to 2006; U.S. Census, 1971 to 2000; and American Community Survey, 2005, 2006, and 2007.

An important consideration in these comparisons is how unauthorized immigrants are treated in citizenship rate calculations. In the Canadian data, the denominator in the citizenship rate calculation is the number of landed immigrants residing in the country. Unauthorized immigrants are not included in the calculation, and changes in their numbers do not exert upward or downward pressure on the citizenship rate. In the U.S. data, the denominator in any citizenship rate calculation is the number of foreign-born individuals, not the number of authorized immigrants residing in the country. Because the number of unauthorized immigrants has been increasing in the United States, and given that such immigrants are not eligible for citizenship, their inclusion in the calculation will contribute to a declining rate. Nonetheless, Fix, Passel, and Sucher (2003) estimate that, even among legal immigrants to the United States, the citizenship rate fell from 64% to 39% between 1970 and 1996, subsequently rising to 49% in 2002.[11]

Furthermore, when one excludes immigrants from the Caribbean, Central America, and South America, from which most unauthorized immigrants to the United States originate as discussed earlier, a 20-percentage-point decline in the citizenship rate is still observed between 1970 and 1990 (from 76% to 56%, Table 5). Finally, the rise in the number of unauthorized immigrants in the United States has occurred largely since 1990, while the decline in the citizenship rate occurred from 1970 to 1990.

11. They include immigrants of all ages, whereas the citizenship rates reported in this study relate to adult (over age 25) immigrants. Hence, the levels may be different, but the trends are similar.

Overall, one can conclude that there was a structural decline in the citizenship rate in the United States between 1970 and 2006, this decline occurring mainly during the 1970s and 1980s, while there was an increase in the citizenship rate in Canada during this period. Consequently, a citizenship rate gap has emerged between the two countries.

There is little literature on the factors explaining this development. Focusing mainly on Portuguese immigrants, Bloemraad (2002) observed that, even within groups defined by variables such as years since migration and source region, differences in citizenship rates persist between Canada and the United States. Bloemraad concludes that demographic and personal characteristics alone do not account for the difference, although she does not quantify how much of the difference is attributable to these characteristics.

Beyond differences in individual and group attributes of immigrants to Canada and the United States, Bloemraad (2006) argued that the tendency to seek citizenship is imbedded within larger institutional and policy environments and that these environments differ significantly between the two countries. She further argued that Canadian government policies are more amenable to encouraging citizenship than U.S. policies. However, while Bloemraad's arguments are consistent with a higher citizenship rate in Canada than in the United States, they do not explain declines in the U.S. rate through the 1970s and 1980s.

Other analysts have interpreted declines in U.S. citizenship rates in terms of diminishing differences in the economic, social, and civil rights available to permanent residents who are citizens and to permanent residents who are not citizens. Various judicial decisions in the 1970s extended to legal permanent residents in the United States rights to access welfare benefits, civil service employment, and financial assistance for higher education (Van Hook *et al.* 2006). Furthermore, citizenship restrictions on professional and occupational licenses that existed before the mid-1970s in some states had largely been eliminated by the 1990s (Plascencia *et al.* 2003). More generally, Jacobson (1997) argued that the "value" of citizenship has been greatly diminished in the United States and many Western European countries since legal residency status, rather than citizenship, has become critical in determining access to certain rights and privileges. In this context, the benefits associated with citizenship, and hence the motivation to acquire it, are viewed as diminishing. Jacobson also sees the increase in citizenship rates that occurred in the United States following the 1996 welfare reform as an indication of a veritable "revaluation" of citizenship, as most non-citizens became ineligible for federal means-tested cash benefits and non-cash social services. In contrast, Van Hook *et al.* (2006) argued that instrumental-legal benefits do not necessarily matter more than social-contextual factors in citizenship decisions. They found that citizenship probabilities increased by a similar magnitude among welfare recipients and non-recipients, and that benefit levels had no extra effect on the likelihood of acquiring citizenship beyond that of benefit access.

Another perspective on citizenship emphasizes the forces of globalization and the changing nature of international migration. Bloemraad and her colleagues argued that the large increase in international flows of capital, goods, people, and ideas across national borders, the continuous improvement in transportation and communication technologies, the development of supranational institutions, and the spread of global human-rights norms all tend to undermine the significance of national borders and state sovereignty (Bloemraad *et al.* 2008). This environment has led to a growing phenomenon of diasporas, transnational communities, and multiple memberships (Jacobson 1997); as a result, international migration has become less permanent and more circular. These globalization processes may have enabled immigrants to participate economically and socially in host countries without the need to become citizens. However, it is not clear from this perspective why citizenship rates have moved in opposite directions in Canada and the United States. The economies as well as the social and political systems in the two countries are broadly similar, and thus should be affected in a similar way by globalization processes.

Divergent citizenship rates in the United States and Canada could also be related to changes in the characteristics of immigrants to the two countries. As noted earlier, a number of characteristics are associated with the likelihood that an immigrant decides to become a citizen. Over the last several decades, the prevalence of these characteristics has moved in different directions in the two countries, with potential implications for trends in citizenship rates. Any analysis of divergent trends must take these characteristics into account. The next section examines this issue.

5.2 Changes in immigrant characteristics in the two countries

The source region of immigrants to Canada and the United States has been changing in very different ways. In the United States, the share of immigrants aged 25 or older arriving from the Caribbean, Central America, and South America rose from 17% to 41% between 1970 and 1990, increasing further, to 52%, in 2006 (Table 6). These data include unauthorized immigrants. However, most of the increase in the share of immigrants from the Caribbean, Central America, and South America occurred between 1970 and 1990, while the rise in the number of unauthorized immigrants has occurred since 1990 (Passel 2006). Hence, the share of authorized immigrants originating from these regions also increased through the 1970s and 1980s, and corresponds with the decline in the citizenship rate in the United States.

Table 6
Changes in the characteristics of immigrants aged 25 or over in the United States and Canada

	United States			United States excluding Caribbean, Central American, and South American immigrants			Canada		
	1970	1990	2006	1970	1990	2006	1971	1991	2006
	percent								
Education									
No diploma/certificate	62.4	41.0	28.9	61.7	29.5	13.0	61.3	40.1	20.17
High school diploma	20.5	19.6	27.0	20.9	21.2	23.6	18.0	30.5	30.47
Non-university diploma	8.1	18.8	17.5	8.1	20.9	20.2	14.3	14.0	22.25
University degree	9.0	20.5	26.6	9.3	28.4	43.2	6.4	15.3	27.1
Source regions									
Canada/United States	9.5	4.6	2.4	11.4	7.7	5.0	8.9	5.5	3.8
Caribbean/Central America/South America	16.5	40.5	51.9	...	...	...	15.8	9.1	11.1
Northern Europe/Western Europe	20.7	8.3	3.9	24.8	13.9	8.2	34.7	30.7	19.1
Southern Europe	14.9	6.6	2.7	17.8	11.0	5.7	15.3	18.1	12.6
Eastern Europe	29.8	12.1	8.0	35.7	20.3	16.5	19.0	10.2	8.5
Asia	7.7	25.5	27.3	9.2	42.9	56.7	4.6	22.1	36.3
African	0.5	1.9	3.3	0.6	3.2	6.9	1.1	3.5	5.6
Other countries	0.4	0.6	0.5	0.5	0.9	1.0	0.6	0.8	0.9
Years since immigration									
0 to 5 years	12.2	16.8	14.9	9.0	16.3	14.9	14.6	13.8	13.6
6 to 10 years	10.0	17.1	16.2	7.4	14.7	14.9	8.6	8.3	11.3
11 to 15 years	9.7	14.0	13.6	9.0	12.5	13.1	14.2	9.8	12.5
16 to 20 years	8.4	11.8	13.5	8.5	9.4	11.8	16.4	13.0	10.5
Over 20 years	59.7	40.3	41.8	66.1	47.1	45.3	46.2	55.1	52.0

Sources: Census of Canada, 1971 to 2006; U.S. Census, 1971 to 2000; and American Community Survey, 2005, 2006, and 2007.

In Canada, the share of immigrants aged 25 or older originating from the Caribbean, Central America, and South America declined from 16% to 9% between 1971 and 1991. Consequently, while comparable shares of adult immigrants to Canada and the United States in the early 1970s had originated from the Caribbean, Central America, and South America (at about 16%), a 31-percentage-point difference was evident by the early 1990s, widening further, to 41 percentage points, by 2006.

In both countries, the share of immigrants from Asia increased by about 18 percentage points between 1970/1971 and 1990/1991. This trend continued in Canada (reaching 38% in 2006), but not in the United States.

Both countries experienced a decline in the share of immigrants from Europe between 1970/1971 and 1990/1991, although the magnitude of this decline was far larger in the United States (at 38 percentage points) than in Canada (at 10 percentage points).

Overall, since 1970, Canada has increasingly attracted immigrants from Asian developing countries—countries from which relatively large shares of immigrants acquire citizenship. In the United States, the rise in immigration over the period of interest was largely from Mexico and other Latin American countries. Immigrants from these countries acquire citizenship at a lower rate and a slower pace than those from other regions. These differences will affect the overall proportions of immigrants acquiring citizenship.

The number of years since immigration among immigrants is another variable associated with citizenship rates that changed in different ways in Canada and the United States. In Canada, the level of annual immigration admission was low in the late 1970s and the 1980s; as a result, the share of immigrants who had been in the country for over 20 years rose from 46% to 55% between 1971 and 1991. In comparison, the number of new immigrants to the United States increased considerably over this period (Bloemraad 2006). Consequently, the share of immigrants who had been in the country for over 20 years decreased from 60% to 40% in that period (Table 6). As the number of years since immigration is positively associated with citizenship, these changing distributions would be expected to lower the citizenship rate in the United States and to increase it in Canada. From 1991/1990 to 2006, however, the trends reversed in the two countries, as the share of long-term immigrants increased in the U.S, but decreased in Canada.

The educational attainment of immigrants rose dramatically in both countries during this period. From 1970/1971 to 1990/1991, the share of adult immigrants with a university degree increased from 6% to 15% in Canada, and from 9% to 21% in the United States. When immigrants from the Caribbean, Central America, and South America were excluded, the share of immigrants with a university degree increased from 9% to 28% in the United States (Table 6). Given the positive correlation between education and citizenship, these trends would be expected to increase the citizenship rate in both countries. Educational attainment had risen to higher levels in both countries by 2006, again likely exerting upward pressure on the rate.

There is a significant difference between Canada and the United States in the speed at which immigrants choose to become citizens; more specifically, the correlation between "years since migration" and the citizenship rate is very different.[12]

12. To demonstrate this effect, ideally one would track cohorts of entering immigrants as they accumulate years in the host country and observe the change in citizenship rates. Comparable longitudinal data for both Canada and the U.S. are not available for such an analysis. The next-best approach is to construct "quasi-cohorts" based on census data. Five-year entry cohorts (e.g., immigrants entering in the 1966-to-1970 period, the 1971-to-1975 period, and so on) are observed every ten years in the U.S. Census and every five years in the Census of Canada. Data on the citizenship rates of these cohorts are presented in Table 7. Since only infrequent observations are available for each cohort, the average across all cohorts is calculated and shown at the bottom of the table.

The citizenship rate is low during the first five years in the host country because of the three-year residency requirement in Canada[13] and the five-year requirement in the United States. Among immigrants who had been in the host country six to ten years, the average citizenship rate in Canada is 71%, whereas in the United States it is 24% (Table 7). Interestingly, after 20 years, the average rates in the United States and Canada are much closer, at 74% and 89%, respectively. Therefore, it is not so much that there is a large difference between the ultimate citizenship rates in the two countries, at least among immigrants who remain in the country for over 20 years, but rather that immigrants choose to become citizens much more quickly in Canada than in the United States.[14]

13. Some permanent residents can become citizens before three years, such as those who were on temporary visas before becoming permanent residents.
14. Once again, these results could be affected by the inclusion of unauthorized immigrants in the United States, which would tend to reduce naturalization rates in that country compared to those in Canada. However, the results in Table 7 are shown for both Canadian and U.S. immigrants from developed countries, among whom unauthorized immigrants are not an issue, and the overall conclusions remain the same.

Table 7
Citizenship rates among immigrants aged 25 or over by cohort and period of immigration

	Years since immigration														
	All source regions					Developing countries					Developed countries				
	0 to 5	6 to 10	11 to 15	16 to 20	More than 20	0 to 5	6 to 10	11 to 15	16 to 20	More than 20	0 to 5	6 to 10	11 to 15	16 to 20	More than 20
	percent														
United States															
Immigration cohort															
1966 to 1970	10.6	...	42.7	...	73.5	12.2	...	42.0	...	64.0	8.2	...	44.3	...	80.6
1971 to 1975	...	27.1	...	49.6	...	...	27.1	...	50.0	...	...	26.9	...	48.0	...
1976 to 1980	7.2	...	41.4	...	74.1	7.5	...	41.6	...	71.7	6.0	...	40.6	...	78.7
1981 to 1985	...	24.3	...	54.7	73.3	...	24.3	...	55.1	71.6	...	25.0	...	51.1	78.8
1986 to 1990	6.6	...	37.6	49.4	...	6.7	...	36.9	48.3	...	6.3	...	43.3	59.3	...
1990 to 1995	...	22.7	38.7	...	...	...	21.0	35.7	...	...	...	32.0	56.3	...	...
1996 to 2000	7.0	19.7	...	...	...	7.0	18.3	...	...	...	7.1	29.3	...	...	...
2000 to 2005	4.7	...	...	...	...	4.7	...	...	...	...	4.3	...	...	...	...
Average	7.2	23.5	40.1	51.2	73.6	7.6	22.7	39.0	51.1	69.1	6.4	28.3	46.1	52.8	79.3
Canada															
Immigration cohort															
1967 to 1971	4.9	...	68.1	75.6	87.5	5.4	...	84.2	88.3	92.9	4.7	...	61.1	70.1	86.8
1972 to 1976	...	57.7	71.1	78.3	88.6	...	73.0	83.7	88.4	94.1	...	39.9	55.8	67.1	87.1
1977 to 1981	16.7	64.6	77.4	84.4	89.0	20.6	74.0	84.7	91.3	94.6	11.3	49.1	65.2	73.1	86.7
1982 to 1986	22.1	71.6	82.5	86.5	90.6	23.5	77.3	88.5	92.1	95.7	19.7	60.8	70.5	75.4	87.9
1987 to 1991	14.4	77.4	84.8	89.4	...	14.7	81.7	89.0	93.1	...	13.4	66.0	73.4	78.6	...
1991 to 1996	22.8	78.2	87.4	...	...	23.7	80.1	89.3	...	...	19.4	71.0	80.4	...	...
1997 to 2001	22.1	79.2	...	...	...	22.4	80.1	...	...	...	21.0	76.2	...	...	...
2001 to 2006	18.2	...	...	...	...	18.3	...	...	...	...	17.7	...	...	...	...
Average	17.3	71.4	78.6	82.8	88.9	18.4	77.7	86.6	90.6	94.3	15.3	60.5	67.7	72.8	87.1

Sources: Census of Canada, 1971 to 2006; U.S. Census, 1971 to 2000; and American Community Survey, 2005, 2006, and 2007.

The data reported above represent the average for entering immigrant cohorts from the early 1970s to the early 2000s. However, with respect to changes across cohorts, the results show that, in the United States, the speed at which immigrants became citizens decreased over the 1970-to-1990 period whereas, in Canada, it increased. For example, among the cohort that entered the United States in the early 1970s, 27% were citizens after six to ten years in the country while, among the cohort that entered in the late 1990s, 20% were citizens after six to ten years. In Canada, the shares of these cohorts who were citizens after six to ten years increased from 58% to 79% (Table 7). This result would have contributed to rising cross-sectional census-based citizenship rates in Canada and to falling cross-sectional rates in the United States.

To summarize, changes in source region, the number of years since immigration, and the change in the speed at which immigrants become citizens could account for much of the divergence in citizenship rates between Canada and the United States since the 1970s, particularly between 1970 and 1990. Other variables, such as age at immigration, language, gender, and family status, may also have contributed to the widening gap and are accounted for in the analysis that follows.

5.3 Do changing immigrant characteristics account for the rise in the citizenship rate gap between Canada and the United States?

To what extent have changes in immigrant characteristics accounted for the rise in the citizenship rate in Canada and the decline in the United States? To address this question, Census of Canada data as well as U.S. Census and American Community Survey data are used.[15]

The focus of the analysis is on the 1970-to-2006 period in the United States and the 1971-to-2006 period in Canada. Since much of the change took place during the 1970s and 1980s in the United States and during the 1970s and 1990s in Canada, the analysis is conducted for three separate periods: the 1970s; the 1980s; and 1990/1991 to 2006. The study first examines the change in the unadjusted citizenship rate over the period, and then examines the change in the rate, controlling for many of the immigrant characteristics (i.e., controlling for compositional change) discussed above.

To estimate the extent to which changing immigrant and source country characteristics explain the divergent trends, ordinary least-squares (OLS) linear probability models were employed.[16] The dependent variable is the probability of being a citizen. The independent variables include those mentioned below, plus an intercept and a dummy variable for the end year. The regressions are run separately for Canada and the United States and separately for each of the three periods.

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15. For this section, the analysis uses the 1971 Census of Canada 1/3 sample, and the 1981, 1991, 2001, and 2006 Census of Canada 20% sample microdata files to examine changes in citizenship rates among immigrants to Canada. For the United States, the analysis uses the following: the 1970 U.S. Census 1% sample; the 1980, 1990, and 2000 5% sample public use microdata files; and the combined 2005, 2006, and 2007 American Community Survey (ACS) (Ruggles *et al.* 2009). Only immigrants aged 25 years or over are included in the calculation of citizenship rates. The Canadian sample includes only landed immigrants, since non-permanent residents were not enumerated in the censuses before 1991. In the U.S. sample, immigrants include all foreign-born regardless of legal status, since information on legal status is not available in the data. Since authorized immigrants cannot be distinguished from unauthorized immigrants in the U.S. data, citizenship rates are calculated both with and without immigrants from Mexico (Mexico is probably the primary source of unauthorized immigrants to the United States).
16. Alternatively, logistic regression models were used. The results are very close to those obtained from linear probability models. The results from the linear probability models are presented, since it is more straightforward to interpret the coefficients and to conduct decomposition.

With these OLS linear probability models, an adjusted estimate of the change in the citizenship rate over the period is generated. The adjusted estimate controls for differences in the characteristics of immigrants, as well as for the source region, at the beginning and end of the period. The adjusted change in the citizenship rate is simply the value of the coefficient on the end-year dummy variable. This value provides an estimate of the change in the citizenship rate over the period, holding immigrant characteristics fixed.

More specifically,

$$\Pr(Y_i = 1) = \alpha + \beta_i X_i + \delta Z_i + \varepsilon_i$$

where:

$Y_i = 1$ if immigrant i is a citizen, and $Y_i = 0$ if immigrant i is not a citizen;

X_i is a vector of characteristics for immigrant i, including source region, level of education, years since immigration, age at immigration, gender, marital status, number of children, and geographic location of residence;

$Z_i = 1$ if the observation is for the end year of the period, and $Z_i = 0$ otherwise; and

ε_i is the error term for individual i.

The coefficient δ on Z_i is the change in the citizenship rate between the beginning year and the end year, adjusted for changes in immigrant characteristics. Thus, the difference between the observed change over the period, Δ, and δ is the portion of the change in the citizenship rate that is accounted for by changes in immigrant characteristics. It can be shown that $\Delta - \delta = \Sigma(\beta_i * (\overline{X}_{i,2} - \overline{X}_{i,1}))$, where $\overline{X}_{i,2} - \overline{X}_{i,1}$ is the change between the beginning year and the end year in the mean of an immigrant characteristic X_i (Abada, Hou, and Ram 2009).[17]

This overall effect of changes in immigrant characteristics on the change in the citizenship rate can be further decomposed into the contribution of each characteristic by using the following equation: $\beta_i * (\overline{X}_{i,2} - \overline{X}_{i,1}) / (\Delta - \delta)$. This equation demonstrates that, in order for an immigrant characteristic to have a large impact on the change in the citizenship rate, it has to be a significant predictor of citizenship (i.e., β_i is significantly different from 0 [zero]), and it has to undergo a large change over the study period (i.e., $\overline{X}_{i,2} - \overline{X}_{i,1}$ is large).

For the United States, separate analyses are conducted using two separate populations: first, all immigrants aged 25 or older; and, second, the same population but excluding those from the Caribbean, Central America, and South America. The latter population does not have a significant number of unauthorized immigrants. The results based on these two populations provide a bound around the correct answer, since the first estimate will tend to overestimate the

17. This is done following one variation of the Oaxaca decomposition method (Oaxaca and Ransom 1994). In this approach, the 'explained' component is calculated as the sum of the differences between group means and the means of the pooled sample of all groups; the differences are weighted by the model coefficients of the pooled sample.

effect of compositional change on the decline in the U.S. citizenship rate and the second will tend to underestimate it.[18]

For Canada, during the 1970s, the unadjusted citizenship rate increased by 7.3 percentage points. The adjusted rate, controlling for changes in characteristics, increased by only 1.5 percentage points (Table 8); this means that 5.8 percentage points (or 79%) of the 7.3-percentage-point increase were due to changes in immigrant characteristics (i.e., the difference between 7.3 and 1.5) (Table 10).

Table 8
Changes in citizenship rates among immigrants aged 25 or over for selected source regions and countries, Canada

	Rates				Changes in rates					
	1971	1981	1991	2006	1971 to 1981		1981 to 1991		1991 to 2006	
					Observed	Adjusted	Observed	Adjusted	Observed	Adjusted
	percent				percentage points					
All	66.4	73.7	73.9	78.9	7.3	1.5	0.2	0.4	5.0	1.8
By source region										
Caribbean, Central and South America	31.6	61.2	69.2	80.6	29.6	12.9	8.0	4.3	11.4	2.2
Europe	69.1	78.1	81.0	84.3	9.0	0.3	2.9	1.0	3.3	1.5
Asia	46.9	64.6	63.0	75.8	17.7	11.3	-1.6	-1.9	12.8	1.0
Africa	44.7	75.7	72.0	74.2	31.0	15.6	-3.7	-0.5	2.2	-0.3
By major country										
United Kingdom	67.2	75.5	80.6	83.3	8.3	5.9	5.1	1.0	2.7	-0.7
United States	67.7	56.6	52.2	57.3	-11.1	-6.9	-4.4	0.0	5.1	4.5
China	65.8	73.4	64.0	78.7	7.6	6.3	-9.4	-0.5	14.7	-0.3
India	32.4	63.3	62.6	66.9	30.9	12.9	-0.7	-8.3	4.3	4.3
Philippines	10.7	64.4	65.5	77.3	53.7	33.6	1.1	-0.1	11.8	-0.5

Source: Census of Canada, 1971 to 2006.

In Canada, there was virtually no change in the rate during the 1980s to explain. Similar calculations for the 1991-to-2006 period indicate that 64% of the increase in the rate was attributable to changing immigrant characteristics. When the results were aggregated over all three periods (from 1971 to 2006), it was found that 7.0 percentages points (or 56%) of the 12.5-percentage-point increase in the citizenship rate were due to changing immigrant characteristics (Table 10).

Similarly, the changing composition characteristics of immigrants played a key role in the United States. On the basis of the entire population of adult immigrants, a little over one-half of the decline in the citizenship rate that occurred over the 1970-to-2006 period was estimated to be

18. Both the decline in the citizenship rate and the effect of compositional change on the decline in the rate will be overestimated in the analysis based on the first U.S. population as a result of the inclusion of a rising number of unauthorized immigrants, particularly for the period since 1990. The effect of compositional change on the decline in the rate may be overestimated because the increasing share of immigrants from Central and South America is overestimated when unauthorized immigration is rising and given that immigrants from these regions tend to have a low probability of becoming citizens. There may be changes to other compositional variables resulting from an increasing share of unauthorized immigrants which would affect the findings as well. However, as noted earlier, the number of unauthorized immigrants was not rising rapidly prior to the 1990s; consequently, the effect on the results will be less for the period from 1970 to 1990. The results based on the second population, excluding Central American and South American immigrants, will tend to underestimate the effect of compositional change on the decline. That is because excluding these immigrants would rule out the effect of the rising share of Mexican immigrants on the change in the rate, an effect which is negative given the very low tendency of eligible Mexican immigrants to become citizens.

attributable to changes in immigrant characteristics (tables 9 and 10). During the 1970s, the period of most rapid decline, about 62% of the decline in the citizenship rate was estimated to be attributable to changing characteristics, while this was the case for 53% of the decline through the 1990s. Between 1990 and 2006, the citizenship rate changed little, and changes in immigrant characteristics were found to play a minor role.

Table 9
Changes in citizenship rates among immigrants aged 25 or over for selected source regions and countries, United States

	Rates				Changes in rates					
	1970	1980	1990	2006	1970 to 1980		1980 to 1990		1990 to 2006	
					Observed	Adjusted	Observed	Adjusted	Observed	Adjusted
	percent				percentage points					
All	69.5	56.65	46.54	46.4	-12.9	-4.9	-10.1	-4.8	-0.1	-0.4
Excluding Caribbean, Central and South American immigrants	75.9	65.6	56.3	58.7	-10.3	-5.0	-9.3	-4.3	2.4	0.1
By source region										
Central/South America	36.9	34.2	32.1	35.0	-2.7	-5.1	-2.1	-4.9	2.9	0.1
Europe	80.5	75.9	68.1	62.4	-4.6	-5.4	-7.8	-6.4	-5.6	-1.9
Asia	46.0	40.0	45.6	59.7	-6.0	1.2	5.6	-2.2	14.1	-1.2
Africa	44.8	42.2	37.3	44.8	-2.6	-6.3	-4.9	-7.3	7.4	4.4
By major country										
Mexico	41.3	28.4	26.5	25.6	-13.0	-8.9	-1.9	-2.7	-0.8	-4.0
United Kingdom	69.1	63.8	53.4	49.9	-5.4	-7.3	-10.4	-8.7	-3.4	-2.9
Canada	71.3	66.9	57.2	48.9	-4.3	-10.6	-9.8	-10.5	-8.3	-3.7
China	47.4	48.5	48.2	60.1	1.1	2.5	-0.3	1.8	11.9	-1.0
India	16.6	28.4	38.0	47.5	11.7	4.4	9.6	-1.3	9.5	2.9
Philippines	43.8	47.5	58.2	66.6	3.7	5.6	10.6	-0.1	8.4	-5.2

Sources: U.S. Census, 1971 to 2000; and American Community Survey, 2005, 2006, and 2007.

Table 10
Decomposition of changes in citizenship rates, 1970/1971 to 2006, Canada and the United States

	Canada				United States				Canada-United States difference			
	1971 to 1981	1981 to 1991	1991 to 2006	1971 to 2006	1970 to 1980	1980 to 1990	1990 to 2006	1970 to 2006	1970/1971 to 1980/1981	1980/1981 to 1990/1991	1990/1991 to 2006	1970/1971 to 2006
						percentage points						
Unadjusted changes in rates	7.3	0.2	5.0	12.5	-12.9	-10.1	-0.1	-23.1	20.2	10.3	5.2	35.6
Adjusted changes in rates	1.5	0.4	1.8	5.5	-4.9	-4.8	-0.4	-11.3	6.4	5.2	2.2	16.9
Changes due to changing characteristics	5.8	-0.3	3.2	7.0	-8.0	-5.3	0.3	-11.8	13.8	5.1	2.9	18.7
						percent						
As a proportion of unadjusted change	79		64	56	62	53		51	68	49	53	62

Note: Cells have been left blank when the unadjusted changes in rates were too small.
Sources: Census of Canada, 1971 to 2006; U.S. Census, 1971 to 2000; and American Community Survey, 2005, 2006, and 2007.

Table 11
Decomposition of changes in citizenship rates, 1970/1971 to 2006, Canada and the United States excluding Caribbean, Central American, and South American immigrants

	Canada				United States excluding Caribbean, Central American and South American immigrants				Canada-United States difference			
	1971 to 1981	1981 to 1991	1991 to 2006	1971 to 2006	1970 to 1980	1980 to 1990	1990 to 2006	1970 to 2006	1970/1971 to 1980/1981	1980/1981 to 1990/1991	1990/1991 to 2006	1970/1971 to 2006
						percentage points						
Unadjusted changes in rates	7.3	0.2	5.0	12.5	-10.3	-9.3	2.4	-17.2	17.6	9.5	2.6	29.7
Adjusted changes in rates	1.5	0.4	1.8	5.5	-5.0	-4.3	0.1	-10.0	6.5	4.7	1.7	15.6
Changes due to changing characteristics	5.8	-0.3	3.2	7.0	-5.3	-5.0	2.3	-7.1	11.1	4.8	0.9	14.1
						percent						
As a proportion of unadjusted change	79		64	56	52	54	97	42	63	50	33	48

Note: Cells have been left blank when the unadjusted changes in rates were too small.
Sources: Census of Canada, 1971 to 2006; U.S. Census, 1971 to 2000; and American Community Survey, 2005, 2006, and 2007.

When immigrants from the Caribbean, Central America, and South American are excluded from the analysis, changing immigrant characteristics account for a little over one-half of the decline in citizenship rates during the 1970s and 1980s, and for 42% of the decline over the entire period from 1970 to 2006 (Table 9 and Table 11).[19] Over the period from 1970 to 1990, when U.S. citizenship rates among immigrants fell most, changing immigrant composition accounted for between 50% and 60% of the decline.

To more directly assess the extent to which changing immigrant characteristics accounted for the widening gap in citizenship rates between the two countries, the results reported above are combined in the bottom panel of Table 10. The 1970s saw the largest increase in the gap between the two countries. Over this period, the citizenship rate rose by 7.3 percentage points in Canada and fell by 12.9 percentage points in the United States; this resulted in a 20.2-percentage-point increase in the gap between the two countries. When immigrant characteristics were held constant, the gap increased by only 6.4 percentage points; this means that 13.8 percentage points, or 68%, of the increase through the 1970s were due to the changing characteristics of immigrants to the two countries (on the basis of the entire population of adult immigrants to the United States).

The 1980s saw the second-largest increase in the citizenship rate gap, at 10.3 percentage points. Changing immigrant characteristics in the two countries accounted for one-half of this increase. Over the entire period from the early 1970s to 2006, the gap in the citizenship rate between Canada and the United States increased by 35.6 percentage points. Changing immigrant characteristics accounted for almost 19 percentage points, or over 60%, of this increase (Table 10).

When immigrants from the Caribbean, Central America, and South America were excluded from the U.S. figures, the citizenship rate gap between Canada and the United States increased by almost 30 percentage points between 1970/1971 and 2006, while changing immigrant characteristics accounted for 48% of this increase (Table 11).

To summarize, over the period from 1970/1971 to 2006, changing immigrant characteristics accounted for between 48% and 62% of the increase in the citizenship rate gap between Canada and the United States. Still, nearly half of the increase in the gap remains unexplained after changes in observed compositional characteristics are taken into account. The extent to which the arguments noted at the outset of this section or other explanations account for this is beyond the scope of this analysis.

19. Excluding the Caribbean, Central America and South America, the naturalization rate is seen to increase by 2.4 percentage points from 1991 to 2006 in the raw data, whereas there was no change when these countries were included. Other research suggests that the citizenship rate, when calculated on the basis of eligible immigrants, has risen in the U.S. since the mid-1990s (Fix, Passel, and Sucher 2003).

6 Conclusion

On the basis of earlier studies and the results presented in this paper, immigrants who are citizens appear to have more favourable labour market outcomes than immigrants who are not. This holds even after accounting for differences in observed personal and job characteristics. Compared with non-citizens, immigrants who are citizens have higher employment rates, lower unemployment rates, a greater likelihood of working in a higher-status occupation, and higher weekly earnings. There is also evidence suggesting that citizenship is particularly correlated with favourable labour market outcomes among immigrants from poorer, less developed countries.

Is this economic advantage the result of citizenship acquisition itself, or are there other possible explanations? Put another way, it is possible that immigrants who became citizens would have had superior labour market outcomes even if they had not acquired citizenship. This may be the case because of other unobserved characteristics, such as motivation to succeed. Few Canadian or U.S. studies address this issue of self-selection, but those that do conclude that the economic advantage to citizenship acquisition persists even after accounting for selection.

Between 1970 and 2006, a significant gap in the citizenship rate among immigrants developed between Canada and the United States. Citizenship rates declined in the United States, at least up to the mid-1990s, and increased in Canada. Through the 1970s, when the gap widened most, changes in the characteristics of immigrants to Canada and the United States accounted for 63% to 68% of the increase in the rate gap. Through the 1980s, a period of continued divergence, changes in immigrant characteristics accounted for about 50% of the increase. Over the entire period from 1970/1971 to 2006, changing immigrant characteristics accounted for 48% to 62% of the increase in the citizenship rate gap between the two countries. To a considerable extent, in both Canada and the U.S., citizenship rates changed over time in directions that one would expect given the attributes of immigrants and the source regions observed in each country.

References

Abada, T., F. Hou, and B. Ram. 2009. "Ethnic differences in educational attainment among the second generation of immigrants." *Canadian Journal of Sociology*. Vol. 34. No. 1. p. 1–28.

Bernard, W. 1936. "Cultural determinants of naturalization." *American Sociological Review*. Vol. 1. No. 6 . p. 943–953.

Bloemraad, I. 2002. "The North American naturalization gap: An institutional approach to citizenship acquisition in the United States and Canada." *International Migration Reviews*. Vol. 36. No. 1. p. 193–228.

Bloemraad, I. 2006. "Becoming a citizen in the United States and Canada: Structured mobilization and immigrant political incorporation." *Social Forces*. Vol. 85. No. 2. p. 667–695.

Bloemraad, I. 2008. "Introduction." *The Economics of Citizenship*. P. Bevelander and D.J. DeVoretz (eds.). Malmo, Sweden. Malmo University. p.13–20.

Bloemraad, I., A. Korteweg, and G. Yurdakul. 2008. "Citizenship and Immigration: Multiculturalism, Assimilation, and Challenges to the Nation-State." *Annual Review of Sociology*. Vol. 34. p. 153–179.

Bratsberg, B., J. Ragan, and Z. Nasir. 2002. "The effect of naturalization on wage growth: A panel study of young male immigrants." *Journal of Labor Economics*. Vol. 20. No. 3. p. 568–597.

Bueker, C.S.. 2005. "Political incorporation among immigrants from ten areas of origin: The persistence of source country effects." *International Migration Review*. Vol. 39. No. 1. p. 103–140.

Chiswick, B. 1978. "The effect of Americanization on the earnings of foreign-born men." *The Journal of Political Economy*. Vol. 86. No. 5. p. 897–921.

Chiswick, B., and P. Miller. 2009. "Citizenship in the United States: The roles of immigrant characteristics and country of origin." *Ethnicity and Labor Market Outcomes*. A. Constant, K. Tatsiramos, and K. Zimmermann (eds). Bingley, U.K. Emerald Group Publishing Limited. p. 91–130.

DeVoretz, D.J., and S. Pivnenko. 2005. "The economic causes and consequences of Canadian citizenship." *Journal of International Migration and Integration*. Vol. 6. No. 3–4. p. 435–468.

DeVoretz, D.J., and S. Pivnenko. 2008. "The economic determinants and consequences of Canadian citizenship ascension." *The Economics of Citizenship*. P. Bevelander and D.J. DeVoretz (eds.). Malmo, Sweden. Malmo University. p. 23–61.

Evans, M.D.R. 1988. "Choosing to be a citizen: The time-path of citizenship in Australia." *International Migration Review*. Vol. 22. No. 2. p. 243–264.

Fix, M., J.S. Passel, and K. Sucher. 2003. "Trends in Naturalization." *Immigrant Families and Workers: Facts and Perspectives*. Washington, D.C. Immigration Studies Program, Urban Institute. Brief. No. 3.

Hayfron, J. 2008. "The economics of Norwegian citizenship." *The Economics of Citizenship*. P. Bevelander and D.J. DeVoretz (eds.). Malmo, Sweden. Malmo University. p. 89–104.

Hoefer, M., N. Rytina, and B.C. Baker. 2011. *Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2009*. Population Statistics. Washington, D.C. Office of Immigration Statistics. Department of Homeland Security. February 2011. http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2010.pdf (accessed July 8, 2011)

Jacobson, D. 1997. *Rights Across Borders: Immigration and the Decline of Citizenship*. Baltimore, Maryland. The Johns Hopkins University Press.

Jasso, G., and M.R. Rosenzweig. 1986. "Family Reunification and the Immigration Multiplier: U.S. Immigration Law, Origin-Country Conditions, and the Reproduction of Immigrants." *Demography*. Vol. 23. No. 3. p. 291–311.

Jasso, G., and M.R. Rosenzweig. 1990. *The New Chosen People: Immigrants in the United States*. New York, New York. Russell Sage Foundation.

Jones-Correa, M. 2001. "Under two flags: Dual nationality in Latin America and its consequences for naturalization in the United States." *International Migration Review*. Vol. 35. No. 4. p. 997–1029.

Mazzolari, F. 2009. "Dual citizenship rights: Do they make more or better citizens?" *Demography*. Vol. 46. No. 1. p. 169–191.

Oaxaca, R., and M.R. Ransom. 1994. "On discrimination and the decomposition of wage differentials." *Journal of Econometrics*. Vol. 61. No. 1. p. 5–21.

Passel, J.S. 2006. *The Size and Characteristics of the Unauthorized Migrant Population in the U.S.: Estimates Based on the March 2005 Current Population Survey*. Washington D.C. The Pew Hispanic Center. http://pewhispanic.org/files/reports/61.pdf (accessed July 22, 2011)

Passel, J.S., and D. Cohn. 2009. *A Portrait of Unauthorized Immigrants in the United States*. Washington, D.C. The Pew Hispanic Center. http://pewhispanic.org/files/reports/107.pdf (accessed July 8, 2011)

Plascencia, L., G. Freeman, and M. Setzler. 2003. "The decline of barriers to immigrant economic and political rights in the American states: 1977-2001." *International Migration Review*. Vol. 37. No. 1. p. 5–23.

Portes, A., and R. Mozo. 1985. "The political adaptation process of Cubans and other ethnic minorities in the Unites States: A preliminary analysis." *International Migration Review*. Vol. 19. No. 1. p. 35–63.

Portes, A., and R. Rumbaut. 1996. *Immigrant America: A Portrait*. Berkeley, California, and Los Angeles, California. University of California Press.

Ruggles, S., J.T. Alexander, K. Genadek, R. Goeken, M.B. Schroeder, and M. Sobek. 2010. *Integrated Public Use Microdata Series: Version 5.0*. Minneapolis, Minnesota. Minnesota Population Center. University of Minnesota. http://usa.ipums.org/usa/cite.shtml (accessed July 8, 2011)

Scott, K. 2008. "The Economics of citizenship: Is there a naturalization effect?" *The Economics of Citizenship*. P. Bevelander and D.J. DeVoretz (eds.). Malmo, Sweden. Malmo University. p. 107–126.

Steinhardt, M.F. 2008. *Does Citizenship matter? The economic impact of naturalisation in Germany*. Turin, Italy. Centro Studi Luca d'Agliano Development Working Paper. No. 266.

Tran, K., S. Kustec, and T. Chui. 2005. "Becoming Canadian: Intent, process and outcome." *Canadian Social Trends*. Statistics Canada Catalogue No. 11-008-X. No. 76. p. 8–13.

Van Hook, J., S. Brown, and F. Bean. 2006. "For love or money? Welfare reform and immigrant naturalization." *Social Forces*. Vol. 85. No. 2. p. 643–666.

Yang, P. 1994. "Explaining immigrant naturalization." *International Migration Review*. Vol. 28. No. 3. p. 449–477.